

*The Butterfly Book, New and Thoroughly Revised Edition. A Popular and Scientific Manual, Describing and Depicting all the Butterflies of the United States and Canada.* By W. J. Holland, Ph.D., Director Emeritus of the Carnegie Museum. xii + 424 pages, 73 colored and 4 black and white plates, and numerous figures in the text, giving over two thousand representations of North American Butterflies. Doubleday, Doran & Company, Inc., Garden City, New York. 1931. Price \$10.00.

Dr. W. J. Holland, the dean of American entomologists, is now in his eighty-fourth year, and can justly feel proud of his latest accomplishment in behalf of students and collectors of North American butterflies. This new and revised edition of the Butterfly Book he very fittingly re-dedicates to his scientific friends throughout the world. During the thirty-three years of elapsed time, between the date of the first printing and the new edition, over sixty-five thousand copies were sold. This is an index of its usefulness and popularity. It is safe to say that no other book in this country has induced more people to take up Lepidoptera as a hobby, or has been of greater help to the beginner in this field.

The general appearance and arrangement of the new edition is essentially the same as that of the old one. Although containing a great amount of new text, twenty-nine additional plates and fifteen more text figures, it is but little larger than the old work. This is due to the wider page and slightly reduced margins, allowing considerable more text to the page. The larger page of text has, in general, allowed a better arrangement of text figures. For example, the antennæ of butterflies and moths, figures 77 and 78, are together, on one page (47), and may be compared at a glance. In the old work, the plates were scattered through the book. They have now been placed in the back, which is a decided improvement, as they may be more readily studied. The original 48 plates are retained. The new plates, numbers 49 to 77, inclusive, illustrate the species and varieties omitted from the old work, and those described since its issue in 1898. All of the plates, with one or two exceptions, are excellent, which is rather remarkable when the great number of printings that were made from the original set are considered.

Much of the introductory text remains but little changed. Chapter III, on classification, has the number of orders of in-

sects brought up to date, there being twenty-two: the old work having given eleven. The number of families of butterflies has been increased from five to seven. Chapter IV, "Books about North American Butterflies," has been considerably improved, enlarged, and brought up to date, and should be of great help to the beginner.

The taxonomic, or main body of the book has been greatly changed and enlarged. The additional text includes the species and varieties omitted from the first edition, those described since its publication, and several new species and varieties described here for the first time. Also one new subfamily is proposed (page 244). The changes consist in revising the taxonomy, in the use of subgenera, and group names. There will probably be some difference of opinion in the use of these. However, the breaking up of the large genera into groups, may be of assistance to the amateur in arranging his collection. As an example of the generic and subgeneric treatment, the "Blues" are all placed in the genus *Lycæna*, and this genus is subdivided by subgeneric headings in the text. To illustrate the point, see page 268, where *Lycæna sonorensis* Felder is placed in the subgenus *Philotes* Scudder. These subgenera are, for the most part, the genera of the latest check lists.

Dr. Holland's treatment of genera is very conservative, and old familiar names of long usage have been retained whenever possible. These and other nomenclatorial matters have been discussed at length in several of his papers published in the Annals of the Carnegie Museum.

There will doubtless be some criticism of Dr. Holland's lack of subspecific usage throughout the work. Subspecific reference is rarely resorted to, the subspecies of the latest revisions and check lists being treated, for the most part, as species or varieties. The simpler names will be easier for the tyro, and Dr. Holland no doubt had this in mind when rewriting the text.

The reader by referring to the explanation of plates will note that a large proportion of the species and varieties are figured from types and paratypes. This is perhaps the most important and outstanding improvement in the new work. Types were, of course, figured in the old edition, but were not designated.

The production of this new edition has been an enormous task, and has entailed a great amount of very hard labor. The writer wishes to call the reader's attention to the painstaking work and research of Dr. Holland, who visited the various museums to study their types and other material, and to discuss the involved taxonomic problems with the curators. These visits from Dr. Holland were not only pleasant and stimulating but have given us a personal interest in the Butterfly Book.—FRANK E. WATSON, American Museum of Natural History, New York, N. Y.

**REVIEW OF THE THIRD EDITION OF SANDERSON'S  
AND PEAIRS' "INSECT PESTS OF FARM,  
GARDEN AND ORCHARD"**

BY J. S. WADE

*Insect Pests of Farm, Garden and Orchard.* By E. Dwight Sanderson. Third Edition, revised and enlarged by Leonard Marion Peairs. New York, John Wiley & Sons, Inc., octavo, 568 pp., 607 figs., 1931. \$4.50.

It is a significant indication of the practical value of the results obtained by present-day workers in economic entomology that the standard books on the subject require revision at quite frequent intervals. It is always of interest to compare the latest with earlier revisions that one may note the extent of progress which investigators have made during a given period. This is particularly true in the case of the well-known volume under consideration, for it has had an interesting and an honored history and has been a valued and much used tool in very nearly every entomological workshop.

It was as early as 1902 that Professor E. Dwight Sanderson, realizing that the information most frequently needed on control of many of our greatest insect pests was quite widely scattered through such original sources as the publications of the U. S. Department of Agriculture, the various State experiment stations, and books on economic entomology, undertook to assemble data most needed in a convenient and readily accessible compilation. This little 12mo. volume comprised only 295 pages and 162 figures and bore the title "Insects Injurious to Staple